HD Panorama Network Camera

User’s Manual

Version 1.0.0

Welcome

Thank you for purchasing our network camera!
This user's manual is designed to be a reference tool for your system.
Please read the following safeguard and warnings carefully before you use this series product!
Please keep this user's manual well for future reference!

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated 12V DC in the IEC60950-1. This series product supports PoE too.
Note: Do not connect these two power supplying sources to the device at the same time; it may result in device damage!
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.
We are not liable for any problems caused by unauthorized modification or attempted repair.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Do not apply power to the camera before completing installation.
Please install the proper power cut-off device during the installation connection.
Always follow the instruction guide the manufacturer recommended.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

This series network camera should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
Please keep it away from the electromagnetic radiation object and environment.
Please make sure the CCD (CMOS) component is out of the radiation of the laser beam device. Otherwise it may result in CCD (CMOS) optical component damage.
Please keep the sound ventilation.
Do not allow the water and other liquid falling into the camera.
Thunder-proof device is recommended to be adopted to better prevent thunder.
The grounding holes of the product are recommended to be grounded to further enhance the reliability of the camera.

6. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.

Do not touch the CCD (CMOS) optic component. You can use the blower to clean the dust on the lens surface.

Always use the dry soft cloth to clean the device. If there is too much dust, please use the water to dilute the mild detergent first and then use it to clean the device. Finally use the dry cloth to clean the device.

Please put the dustproof cap to protect the CCD (CMOS) component when you do not use the camera.

Dome enclosure is the optical component, do not touch the enclosure when you are installing the device or clean the enclosure when you are doing maintenance work.

7. Accessories

Be sure to use all the accessories recommended by manufacturer.

Before installation, please open the package and check all the components are included.

Contact your local retailer ASAP if something is broken in your package.

Accessory Name	Amount
Network Camera	1
Quick Start Guide	1
Installation Accessories Bag	1
CD	1

Table of Contents

1 General Introduction 1
1.1 Overview 1
1.2 Features 1
1.3 Specifications 2
1.3.1 Performance 2
1.3.2 Factory Default Setup 4
2 Structure 10
2.1 Multi-function Combination Cable 10
2.2 Dimensions 10
2.3 Bidirectional Talk 11
2.3.1 Device-end to PC-end 12
3 Installation 13
3.1 General Installation 13
3.2 Device Installation Steps 13
3.3 Micro SD Card Installation 14
3.4 Manual Zoom Lens Focus Operation 15
4 Quick Configuration Tool 16
4.1 Overview 16
4.2 Operation 16
5 Web Operation 19
5.1 Network Connection 19
5.2 Login and Main Interface 19
5.3 Panorama Function on Web 21
5.3.1 Installation Mode 21
5.3.2 Display Mode 22
6 FAQ 23
Appendix Toxic or Hazardous Materials or Elements 24

1 General Introduction

1.1 Overview

This series network camera combines traditional camera and network video technology into one unit which integrates A/V data collection and transmission through network without aux devices. It uses standard H.264 and MJPEG video compression technology, which maximally guarantee the audio and video quality.

This series network camera enclosure has the strong resistance capacity, which can guarantee the proper work performance under heavy strike. It supports real-time monitor and listening at the same time.

It can be used alone or used in a network area. When it is used lonely, you can connect it to the network and then use a network client-end. Due to its multiple functions and various uses, this series network camera is widely used in many environments such home, office, bank, road monitor and etc.

1.2 Features

User Management	● Different user rights for each group, one user belongs to one group. ● The user right shall not exceed the group right. ● You can edit each group at anytime.
Storage Function	● Support central server backup function in accordance with your configuration and setup in alarm or schedule setting ● Support record via Web and the recorded file are storage in the client-end PC. ● Support built-in Micro-SD card. ● Support network storage like FTP, support short-time storage when encounter disconnection. (Only particular models have this function.)
Alarm Function	● Real-time respond to external local alarm input and video detect as user pre-defined activation setup and exert corresponding message in screen and audio prompt(allow user to pre-record audio file) ● Real-time video detect: motion detect, camera masking. ● Can generate an alarm when network abnormal, Micro-SD card abnormal event occurred.
Network Monitor	● Network camera supports one-channel audio/video data transmit to network terminal and then decode. Delay is within 270ms (network bandwidth support needed) ● Max supports 20 connections. ● Adopt the following audio and video transmission protocol: HTTP, TCP, UDP, RTP/RTCP, RTSP and etc. ● Support web access, widely used in WAN.

Network Management	● Realize network camera configuration and management via Ethernet. ● Support device management via web or client-end. ● Support various network protocols.
Power	● External power adapter DC12V ● PoE **Warning!** **Do not connect two power supplying sources to the device at the same time; it may result in device damage!**
Assistant Function	● Log function ● Support PAL/NTSC ● Support display of system source info and working status ● Day/Night mode auto switch ● Backlight compensation: screen auto split to realize backlight compensation to adjust the bright. ● Support electronic shutter and gain setup. ● Support video watermark function to avoid vicious video modification. ● Support language function.

1.3 Specifications

1.3.1 Performance

Please refer to the following sheet for network camera performance specification.

Parameter \ Model		E200
System	Main Processor	TI Davinci high performance DSP
	OS	Embedded LINUX
	System Resources	Support real-time network monitoring, local record, and remote operation at the same time.
	User Interface	Remote operation interface such as WEB, DSS, PSS
	System Status	Micro-SD card status, bit stream statistics, log, and software version.
Video Parameter	Image Sensor	1/2.9 inch CMOS
	Pixel	1920(H)*1080(V)
	Day/Night Mode	Support day/night mode switch
	Gain Control	Fix/Auto
	White Balance	Manual/Auto
	BLC	On/Off
	Electronic Shutter	Manual/Auto It ranges from 1/3 to 1/10000.

	Video Compression Standard	H.264/H.264B/MJPEG
	Video Frame Rate	PAL: Main stream (1080P@25fps,SXGA@25fps,1.3M@25fps,720P@25fps,D1@25fps) Extra stream (D1@25fps,CIF@25fps) NTSC: Main stream (1080P@30fps,SXGA@30fps,1.3M@30fps,720P@30fps,D1@30fps) Extra stream (D1@30fps,CIF@30fps)
	Video Bit Rate	H.264:56Kbps-8192Kbps. It is adjustable; MJPEG: 40Kbps-20480Kbps. It is adjustable and bit rate is adjustable. Support customized setup.
	Video Flip	Support mirror. Support flip function.
	Snapshot	Max 1F/S JPEG snapshot
	Privacy Mask	Supports max 4 privacy mask zones
	Video Setup	Support parameter setup such as bright, contrast.
	Video Information	Channel title, time title, motion detect, privacy mask.
	Lens	1.25mm F1.8 D\H\V：180°±5°
	Lens Interface	M12 is the default accessories.
Video	Motion Detect	396 (18 *22) detection zones；sensitivity level ranges from 1 to 6 (The 6th level has the highest sensitivity) Activation event: video storage, image snapshot, log, email function and etc.
	Privacy Mask	Activation event: video storage, image snapshot, log, email function and etc.
Record and Backup	Record Priority	Manual>Video detect>Schedule
	Local Storage	Support Micro SD card storage
Network	Wired Network	1-channel wire Ethernet port, 10/100 Base-T Ethernet
	Network Protocol	HTTP,TCP/IP,IPv4/IPv6,ARP,IGMP ,ICMP,RTSP,RTP,UDP,SMTP,FTP,DHCP,DNS,DDNS,PPPOE,UPNP,NTP,Bonjour,SNMP.
	Platform Interface Standard	ONVIF
	Remote	Monitor, system setup, log information, maintenance , upgrade and

	Operation	etc
AUX Interface	Reset	Built-in RESET button
General Parameter	Power	Support DC12V and PoE.
	Power Consumption	2.5W MAX
	Working Temperature	-10℃~+60℃
	Working Humidify	10%~90%
	Dimensions(mm)	¢110×54
	Weight	0.25Kg
	Installation	Mount on wall, ceiling and etc

1.3.2 Factory Default Setup

Please refer to the following sheet for factory default setup information.

Function Setup Type		**Item**			**Default setup**
					E200
Camera Setup	Conditions	Brightness			50
		Contrast			50
		Saturation			50
		Hue			50
		Gain limit			0~50
		Exposure mode			Auto
		Scene mode			Auto
		Day/night mode			Auto
		BLC			Off
		Mirror			Disable
		Flip			Disable
	Video	Video bit stream	Main stream	Bit stream type	General
				Encode mode	H.264B
				Resolution	1080P (1920*1080)
				Frame rate(FPS)	PAL: 25 NTSC: 30

Function Setup Type	Item			Default setup
				E200
			Bit stream type	CBR
			Reference bit rate	3584-8192 Kb/S
			Bit rate	8192
			I frame interval	50
			Watermark settings	Enable
			Watermark character	DigitalCCTV
		Extra stream	Enable	Enable
			Bit stream type	General
			Encode mode	H.264B
			Resolution	CIF(352×288/352*240)
			Frame rate(FPS)	PAL: 25 NTSC: 30
			Bit rate type	CBR
			Reference bit rate	192-1024Kb/S
			Bit rate	1024
			I frame interval	50
	Snapshot		Snap type	General snap
			Image size	1080P (1920*1080)
			Quality	Better
			Speed	1s/picture
	Overlay		Privacy mask	Disable
			Channel title	Enable
			Time title	Enable
	Path		Snapshot path	C:\PictureDownload
			Record path	C:\RecordDownload
Network setup	TCP/IP		Host name	IPC
			Ethernet card	Wired(Default)

Function Setup Type	Item		Default setup
			E200
		Mode	Static
		MAC address	Depends on the device
		IP version	IPV4
		IP address	192.168.1.108
		Subnet mask	255.255.255.0
		Default gateway	192.168.1.1
		Preferred DNS	8.8.8.8
		Alternate DNS	8.8.8.8
		Enable ARP/Ping to set IP address service	Enable
	Connection	Max connection	10
		TCP port	37777
		UDP port	37778
		HTTP port	80
		RTSP port	554
	PPPoE	Enable	Disable
		User name	N/A
		Password	N/A
	DDNS	Server type	Disable，CN99 DDNS
		Server IP	none
		Port	80
		Domain name	none
		User name	none
		Password	N/A
		Update period	10m
	IP filter	Trusted sites	Disable
	SMTP(email)	SMTP server	none
		Port	25
		Anonymity	Disable
		User name	anonymity
		Password	N/A
		Sender	none
		Authentication (Encrypt mode)	N/A
		Title (Subject)	IPC Message

Function Setup Type	Item			Default setup
				E200
			Main Receiver	N/A
			Interval	0s
			Health email	Disable , interval=60m
	UPnP		Enable UPnP	Disable
	SNMP		SNMP v1	Disable
			SNMP v2	Disable
			SNMP port	161
			Read community	public
			Write community	private
			Trap address	N/A
			Trap port	162
	Bonjour		Enable	Enable
			Server name	“Device name+SN”. Depends on the device.
	Multicast		Multicast address	239.255.42.42
			Port	36666
	QoS		Real-time monitor	0
			Command	0
Event management	Video detect	Motion detect	Enable	Disable
			Anti-dither	5 seconds
			Sensitivity	3
			Record Channel	Enable
			Record Delay	10 seconds
			Send email	Disable
			Snapshot	Disable
		Video masking (Camera)	Enable	Disable
			Record Channel	Enable
			Record Delay	10 seconds
			Send email	Disable
			Snapshot	Disable
	Abnormity	DSP error	Enable	Disable

Function Setup Type	Item			Default setup
				E200
			Send email	Disable
		Capacity warning	Enable	Disable
			Capacity limit (Space threshold)	10%
			Send email	Disable
		Micro-SD card error	Enable	Disable
			Send email	Disable
		Disconnection	Enable	Disable
			Record	Enable
			Record delay	10s
		IP conflict	Enable	Disable
			Record	Enable
			Record delay	10s
Storage management	Storage	FTP	FTP enable	Disable
			Server IP	N/A
			Port	21
			User name	anonymity
			Password	N/A
			Remote storage path	share
			Emergency storage to local path	Disable
	Record control		Pack duration	8m
			Pre-record	5s
			Disk full	Overwrite
			Record mode	Auto
System management	General setup	Local setup	Device name	Depends on the device
			Language	English
			Video standard	NTSC
		Date and time	Date format	Y-M-D
			Time format	24H
			Time zone	GMT+08:00
			Current time	Sync PC
			DST	Disable
			DST type	Week
			Start time	00:00:00 of the first Sunday of the month

Function Setup Type	Item			Default setup
				E200
			End time	00:00:00 of the second Monday of the month
			Synchronize with NTP	Disable
			NTP server	clock.isc.org
			Port	37
			Update period	10m
	Auto maintenance		Auto reboot	Disable
			Auto delete old files	Disable

2 Structure

2.1 Multi-function Combination Cable

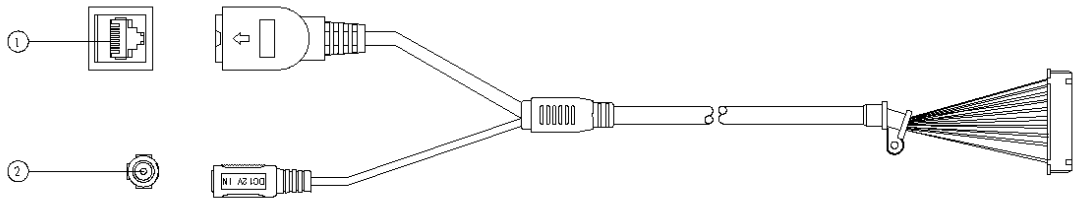

Figure 2- 1

The multi-function cable is in Figure 2- 1.

Please refer to the following sheet for corresponding information.

No.	Port	Port Name	Connector	Description
1	LAN	Network port	Ethernet	Connect to Ethernet cable.
2	DC12V	Power input	/	Power port, input 12V DC.

2.2 Dimensions

You can refer to the following figures for dimension information. The Unit is mm. See Figure 2- 2, Figure 2- 3, and Figure 2- 4.

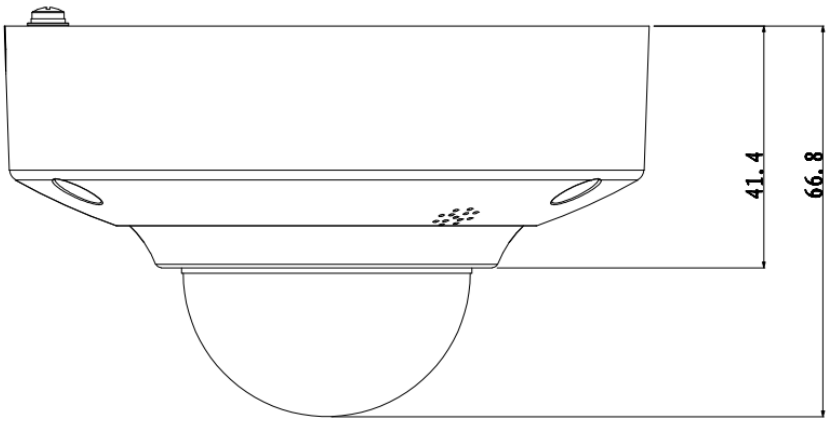

Figure 2- 2

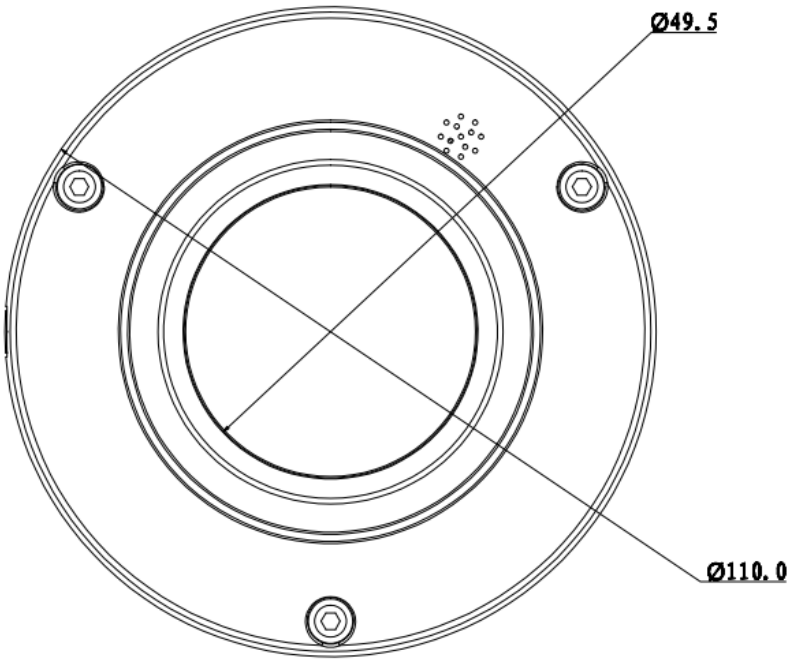

Figure 2- 3

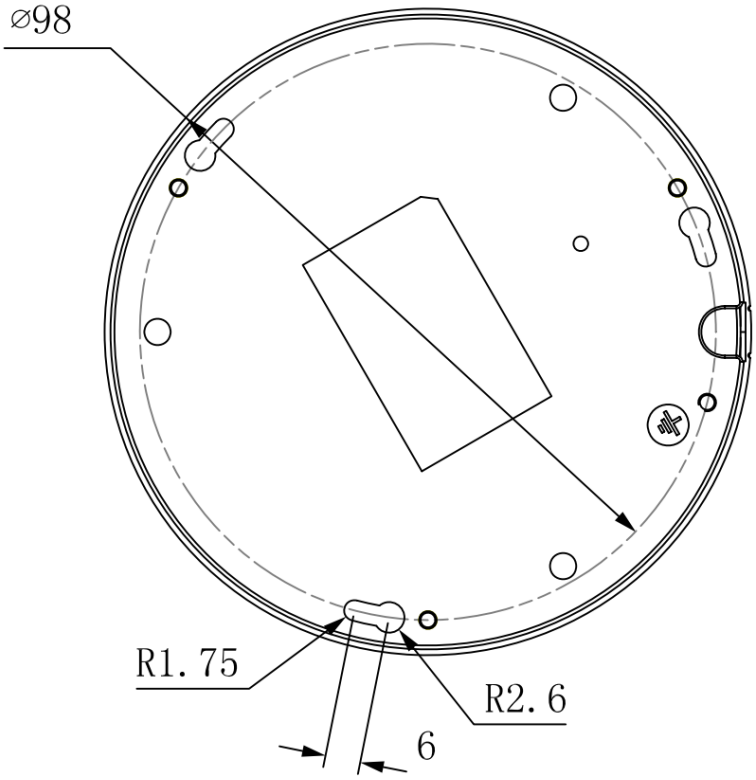

Figure 2- 4

2.3 Bidirectional Talk

2.3.1 Device-end to PC-end

Device Connection

Please connect the speaker to the audio input port of the PC.

Login the Web and then click the Talk button to enable the bidirectional talk function.

You can see the button becomes orange after you enabled the bidirectional talk function.

Click Talk button again to stop the bidirectional talk function.

Listening Operation

At the device end, speak via the speaker, and then you can get the audio at the pc-end.

3 Installation

Important

- **Before you complete the installation and setup, do not remove the electrostatic attraction film on the transparent enclosure. Otherwise it may result in injury.**
- **After remove electrostatic attraction film, do not touch dome enclosure in case it may leave stain.**
- **Before the installation, please make sure the installation surface can sustain at least 3X weight of the bracket and the camera.**

3.1 General Installation

Please refer to Figure 3- 1 for device installation information. You can see there are installation screws in the accessories bag for you to install the device conveniently.

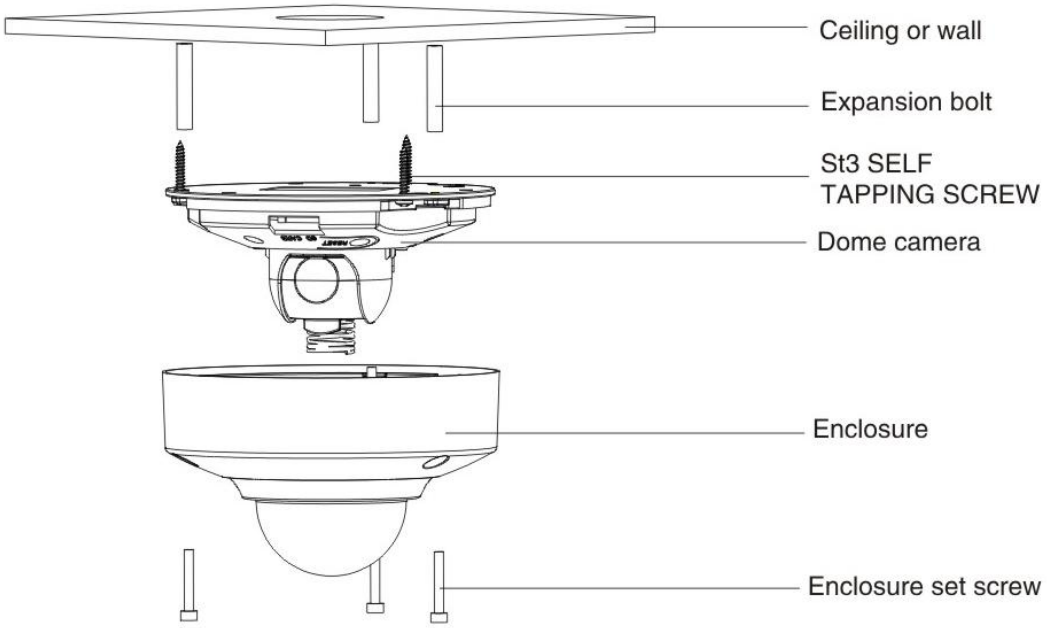

Figure 3- 1

3.2 Device Installation Steps

Step 1

Use the inner hex wrench from the accessories bag to unfasten the 3 hex screws on the dome camera enclosure and then remove it.

Step 2

Take the installation position diagram from the accessories bag and then paste it on the installation ceiling or the wall according to the monitor area. Please dig three bottom holes of the plastic expansion bolts according to the diagram. Take three expansion bolts from the accessories bag and then insert them to the holes you just dug and then fix firmly. If

you need to dig a hole to pull through the cable on top of installation surface, you need to dig a cable exit hole on the installation surface according to the installation positioning diagram. If you need to pull through the cable on the side, you need to dig through the U-shape exit hole on the side of chassis.

Step 3

Adjust the device chassis and pull the cable through the exit hole. Make “TOP” direction of the device identical with installation diagram. Make fixture hole on chassis face the three plastic expansion bolts (in Step 1). Take 3 ST3.0 self-tapping screw out from the accessories bag and fix them on the three plastic expansion bolts to secure the chassis on installation surface.

Step 4

Line up the dome camera protection enclosure and follow step 1 reversely to put it back. Use the inner hex wrench from the accessories bag to fasten the 3 hex screws. For Micro-SD card installation, please refer to Chapter 3.3.

See Figure 3- 2 for grounding hole (GND).

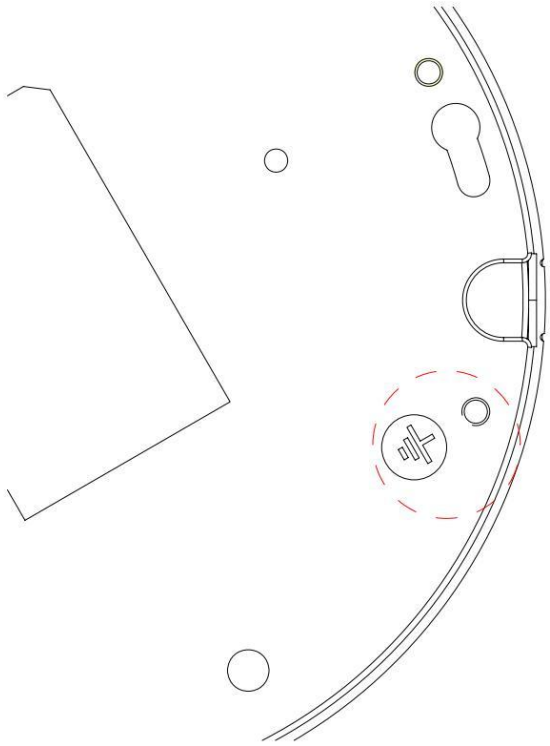

Figure 3- 2

Note: If connect the GND to ground lead, may improve device reliability. The GND locates next to exit hole on chassis and the GND screw is M3.

3.3 Micro SD Card Installation

Warning!

Please unplug the device power cable and then shutdown the device before you install the Micro SD card.

Please make sure the wire between power panel and device motherboard is firm,

otherwise may cause abnormity.
Please put the enclosure back and fasten the screws tightly to prevent dust.

Step 1
Please refer to Step 1 in chapter 3.2 to open the device protection enclosure.

Step 2
Please find the “SD” mark inside the device according to Figure 3- 3. Insert Micro-SD card and put the enclosure back.

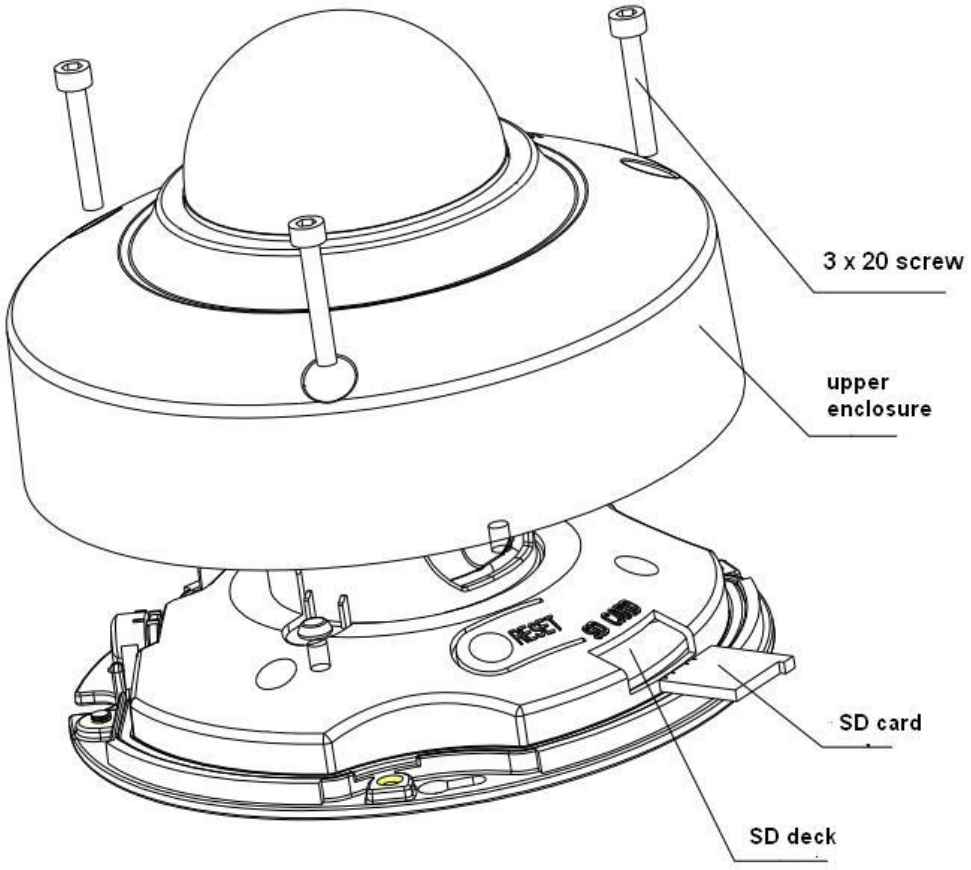

Figure 3- 3

3.4 Manual Zoom Lens Focus Operation

The lens of the HD panorama network camera is 180°, no manual zoom is required.

4 Quick Configuration Tool

4.1 Overview

Quick configuration tool can search current IP address, modify IP address. At the same time, you can use it to upgrade the device.

Please note the tool only applies to the IP addresses in the same segment.

4.2 Operation

Double click the “ConfigTools.exe” icon, you can see an interface is shown as in Figure 4-1.

In the device list interface, you can view device IP address, port number, subnet mask, default gateway, MAC address and etc.

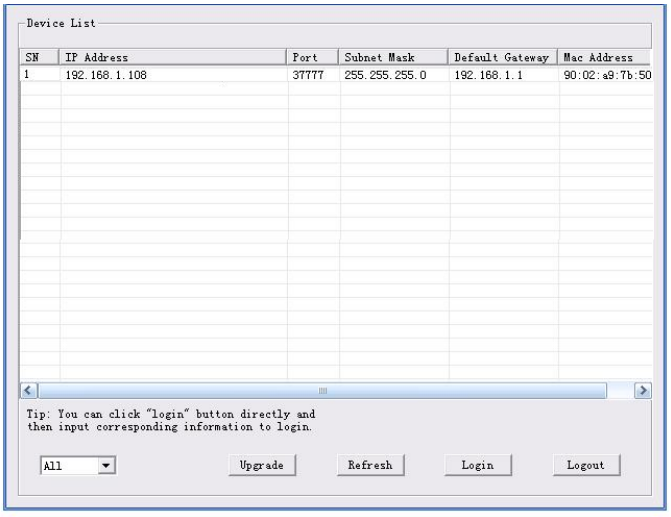

Figure 4-1

Select one IP address and then right click mouse, you can see an interface is shown as in Figure 4-2.

Note:

You can set the IP address, subnet mask and gateway for the network camera and PC. Please note network camera IP address and PC IP address shall be in the same network segment if there is no router. Network camera default IP address is 192.168.1.108. If there is a router, please set the corresponding gateway and subnet mask.

The factory default user name is **admin** and password is **admin**. For security reasons, please modify your password after you first login.

For detailed WEB operation, please refer to the Network Camera Web Operation Manual in the resource CD.

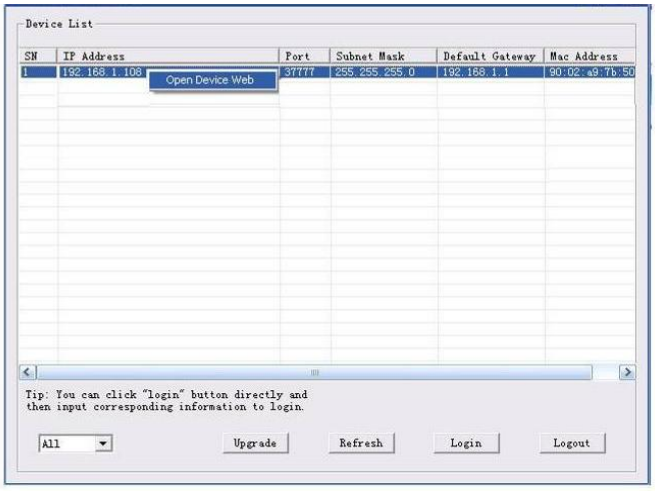

Figure 4-2

Select the “Open Device Web” item; you can go to the corresponding web login interface. See Figure 4-3.

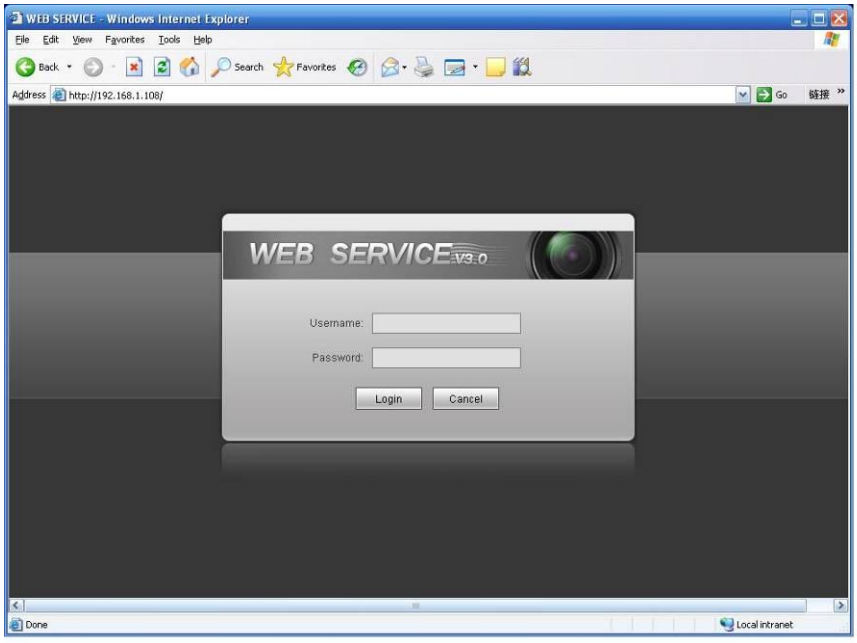

Figure 4-3

If you want to modify the device IP address without logging in the device web interface, you can go to the configuration tool main interface to set.

In the configuration tool search interface (Figure 4-1), please select a device IP address and then double click it to open the login interface. Or you can select an IP address and then click the Login button to go to the login interface. See Figure 4-4.

In Figure 4-4, you can view device IP address, user name, password and port. Please modify the corresponding information to login.

Please note the port information here shall be identical with the port value you set in TCP port in Web Network interface. Otherwise, you cannot login the device.

If you are using device background upgrade port 3800 to login, other setups are all invalid.

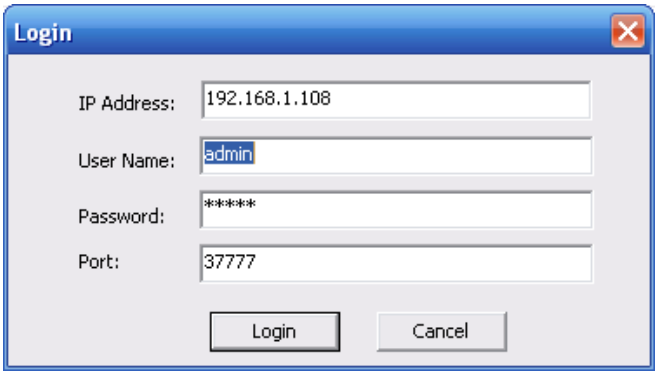

Figure 4-4

After you logged in, the configuration tool main interface is shown as below. See Figure 4-5.

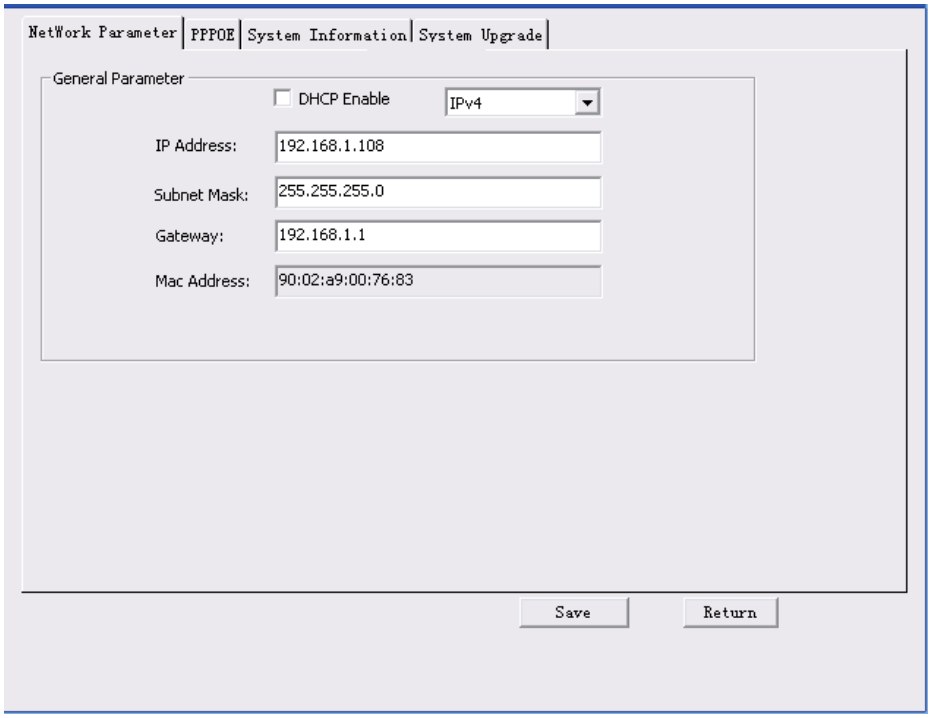

Figure 4-5

For detailed information and operation instruction of the quick configuration tool, please refer to the *Quick Configuration Tool User's Manual* included in the resources CD.

5 Web Operation

This series network camera products support the Web access and management via PC. Web includes several modules: Monitor channel preview, system configuration, alarm and etc.

5.1 Network Connection

Please follow the steps listed below for network connection.

1. Make sure the network camera has connected to the network properly.
2. Please set the IP address, subnet mask and gateway of the PC and the network camera respectively. Network camera default IP address is 192.168.1.108. Subnet mask is 255.255.255.0. Gateway is 192.168.1.1
3. Use order ping ***.***.***.***(* network camera address) to check connection is OK or not.

5.2 Login and Main Interface

Open IE and input network camera address in the address bar.
For example, if your camera IP is 192.168.1.108, then please input http:// 192.168.1.108 in IE address bar. See Figure 5- 1.

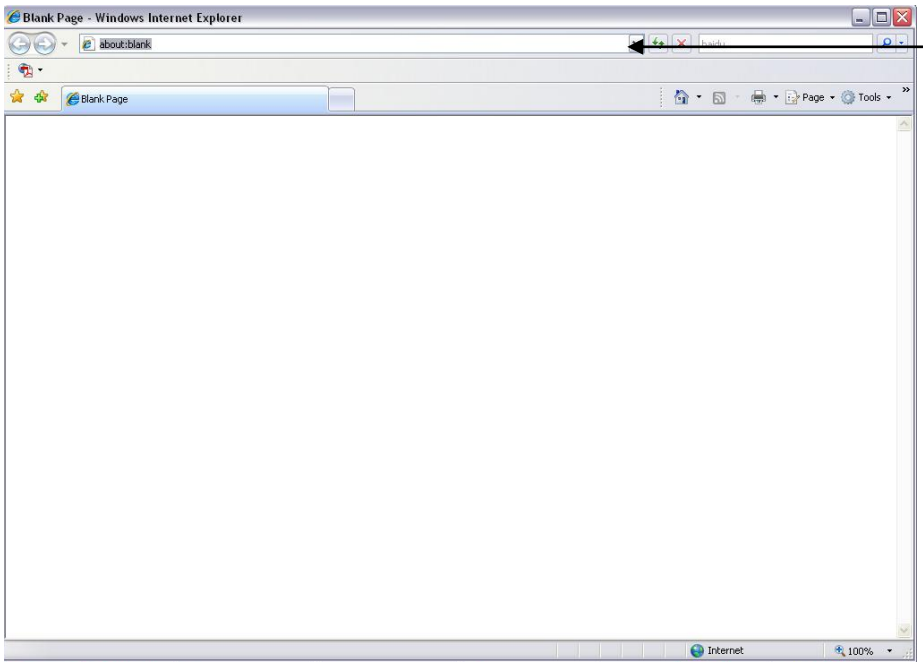

Figure 5- 1

The login interface is shown as below. See Figure 5- 2.
Please input your user name and password.
Default factory name is admin and password is admin.
Note: For security reasons, please change your password after you first login.

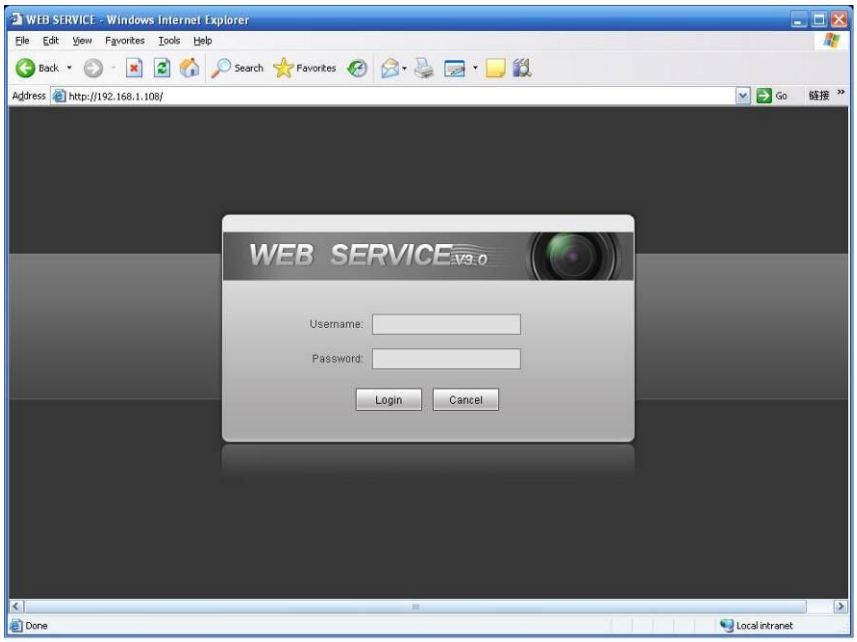

Figure 5- 2

If it is your first time to login in, system pops up warning information to ask you whether install control webrec.cab or not after you logged in for one minute. Please click OK button, and system will automatically install the control. When system is upgrading, it will overwrite the previous Web too.

If you can't download the ActiveX file, please check whether you have installed the plug-in to disable the control download. Or you can lower the IE security level. See Figure 5- 3.

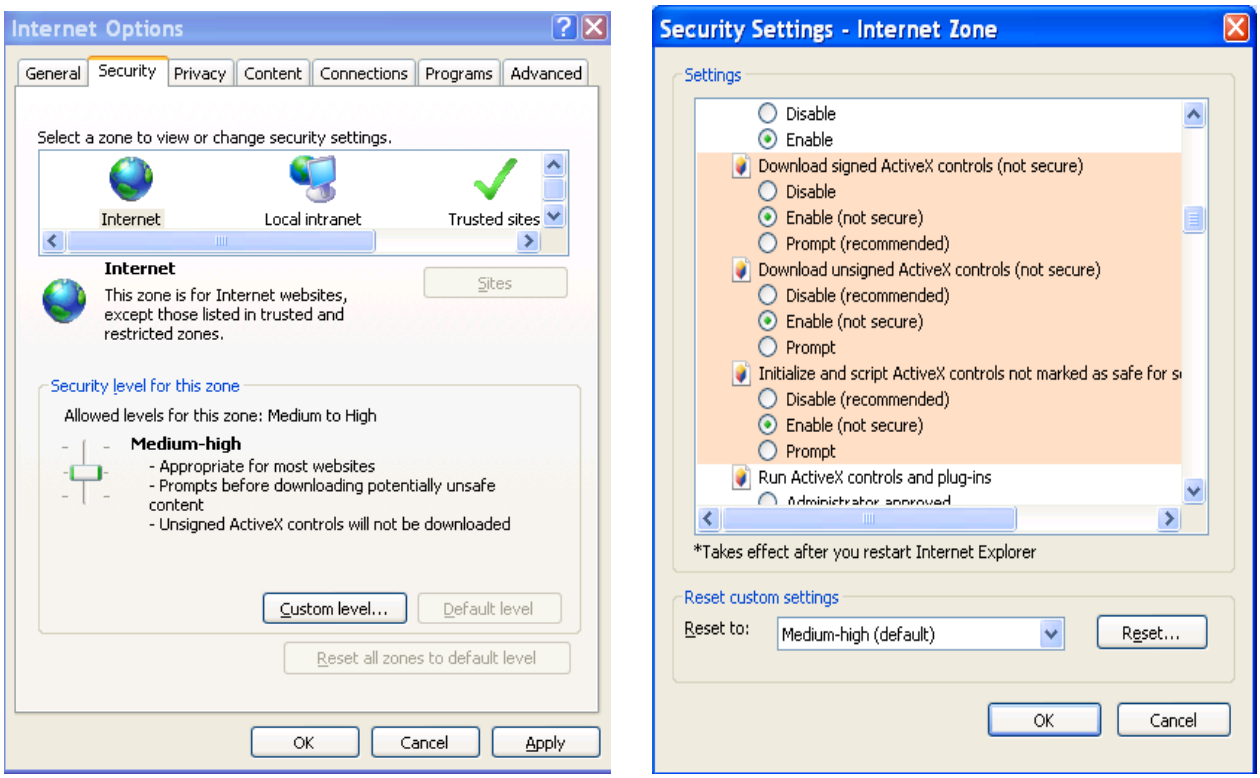

Figure 5- 3

After you logged in, you can see the main window. See Figure 5- 4.

Figure 5- 4

Please refer to the Web Operation Manual included in the resource CD for detailed operation instruction.

5.3 Panorama Function on Web

There is a panorama icon at the lower-left corner of web interface and you can click it to view installation mode and display mode at the right.

Please set installation mode according to actual installation condition.

5.3.1 Installation Mode

There are three modes: wall mount, in-ceiling and ground.

- Wall mount: It is wall mount and the camera is pointing to the front.
- In-ceiling: It is the in-ceiling mount and the camera is pointing to the bottom.
- Ground: It is the ground installation and the camera is pointing to the top.

See Figure 5- 5.

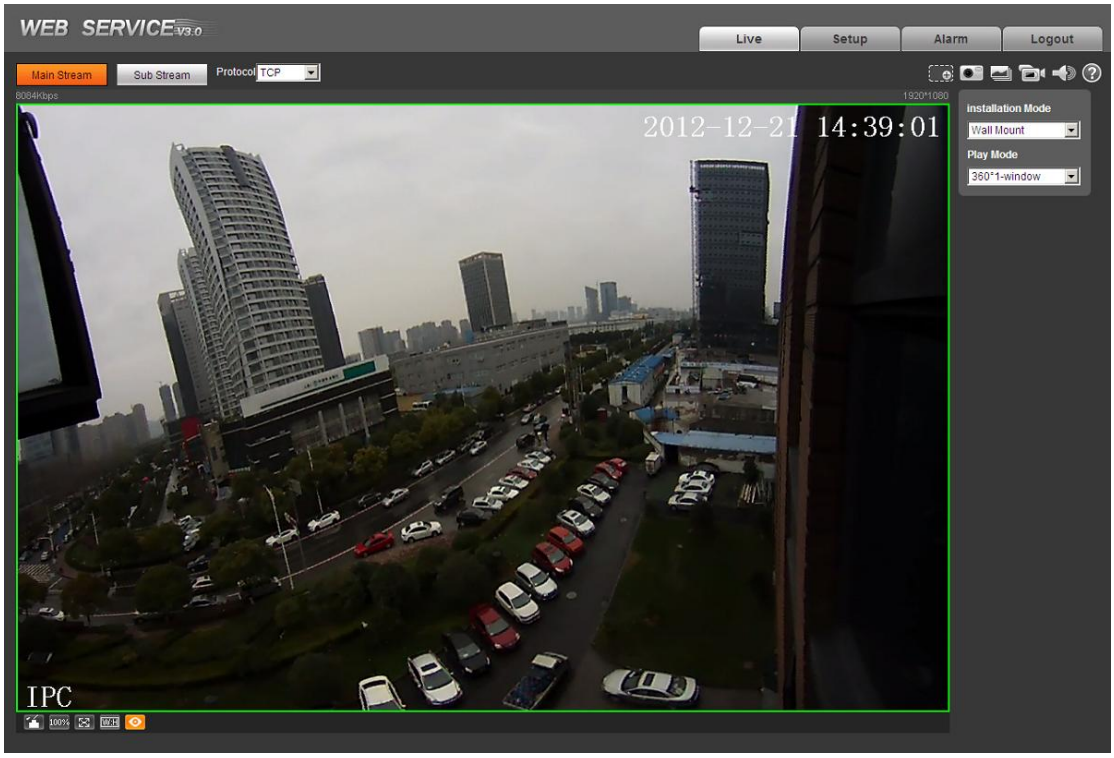

Figure 5- 5

5.3.2 Display Mode

There are four modes: 360° 1-window, dual-picture panorama, 1-window and 90° 4-window

- 360° 1-window: It takes the whole panorama and is one-window 360 degrees panorama.
- Dual-picture panorama: It is the dual-window 180 degrees panorama.
- 1-window: It is to display one of the four windows. It can show the video around the 360 degrees panorama. You can select video and then implement corresponding operation.

Where you can:

1. Adjust camera direction via arrow keys. Click OK to restore default position.
2. Step length is mainly used for speed adjustment as the longer the step, the higher the speed. Zoom step length is to adjust zoom speed; movement step length is to adjust rotation speed per step; rotation step length is to adjust clockwise/counterclockwise rotation speed.

- 90° 4-window: Panorama 360 digress is divided into four windows. Each window has 90 digress and totally displayed in four channels.

6 FAQ

Bug	Solution
I cannot boot up the device.	Please click RESET button for at least five seconds to restore factory default setup.
Micro SD card write times	Do not set the Micro SD card as the storage media to store the schedule record file. It may damage the Micro SD card duration.
I cannot use the disk as the storage media.	When disk information is shown as hibernation or capacity is 0, please format it first (Via Web).
I cannot upgrade the device via network.	When network upgrade operation failed, you can use port 3800 to continue upgrading.
Recommended Micro SD card brand	Kingston 4GB, Kingston 16GB, Kingston 32GB, Transcend 16GB，SanDisk 4GB, SanDisk 32GB. Usually we recommend the 4GB (or higher) or industry-level high speed card in case the slow speed results in data loss.
Save config	When you are done with config, to ensure the config is saved on storage media, we recommend you to reboot the device via software.
Power adaptor	The suggested environment temperature of power adaptor is 0~40 ℃, and for other temperatures, a industry-level power adaptor is required.

Appendix Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Circuit Board Component	○	○	○	○	○	○
Device Case	○	○	○	○	○	○
Wire and Cable	○	○	○	○	○	○
Packing Components	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note

- **This user's manual is for reference only. Slight difference may be found in user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks mentioned are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website for more information.**